DEPARTMENT OF THE ARMY
US ARMY MEDICAL DEPARTMENT ACTIVITY
Fort Huachuca, Arizona 85613-7040

MEDDAC Memo
No. 420-2 06 October 2004

Facilities Management
ELECTRICAL POWER OUTAGE

1. HISTORY. This issue publishes a revision of this publication.

2. PURPOSE. To prescribe responsibilities and actions to be taken in the event that commercial electrical power is unavailable or limited in availability as the result of natural or man-made disaster, fuel shortages or equipment malfunction.

3. APPLICABILITY. This memorandum is applicable to all areas within USA Medical Activity (MEDDAC) and USA Dental Activity (DENTAC) Fort Huachuca, Arizona.

4. REFERENCES.

4.1 AR 385-10, The Army Safety Program.

4.2 Comprehensive Accreditation Manual for Ambulatory Care, Joint Commission for the Accreditation of Healthcare Organizations Manual, current edition.

4.3 NFPA 99 Health Care Facilities Handbook, 2002

4.4 Management of the Environment of Care JCAHO, current edition

5. GENERAL.

5.1 Power Reduction and Outages. Complete or partial non-availability of commercial power to Raymond W. Bliss Army Health Center (RWBAHC) can result from a number of causes, to include:

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*This memo supersedes MEDDAC Memo 420-2, dated 27 March 2001

5.1.1 Man-made or natural disasters affecting the Tucson Gas and Electric Power Company (TEPCO) power plant located in Tucson, or the TEPCO power line between Tucson and Fort Huachuca.

5.1.2 Disruption of the power transmission lines between the post power station and the Health Center.

5.1.3 TEPCO may become unable to supply sufficient power to support consumption fully, causing brownouts or blackouts. This can result from fuel constraints, unanticipated high usage by other TEPCO customers, or unanticipated increases in consumption beyond Fort Huachuca's load limits.

5.2 The Health Center auxiliary power system consists of 2 diesel-fueled generators located in the south parking lot of the Building 45001, a 440 KW unit that handles the critical and life safety branches and a 750 KW unit that handles the emergency equipment branch. The 750 KW unit is of sufficient size that it can handle the majority of the Health Centers total emergency power load if the 440 KW unit should fail to start. Automatic transfer switches ensure that both generators come on line should main power fail and that the entire emergency load is shunted to the 750 KW unit if the 440 KW unit fails. A momentary power fluctuation (less than 10 seconds) or line-drop below a specified point automatically activates the generator. Operation of the system will be in accordance with Ch-1 of AR 385-10 and EC.7.40 JCAHO for the Accreditation of Healthcare Organizations Manual. Selected light fixtures, services and receptacles which are normally commercially powered are automatically shunted to the emergency generator. The above ground fuel tank for the generator has a 1000 gallon capacity, and the day tank below the 750 KW generator has an 800 gallon tank. The standby fuel truck designated to support the generators has a 1200-gallon capacity, for a potential sustained operating capability of at least 7 days under emergency power without refueling. The Contractor Work Team (SSI Shop 260) runs a monthly check of the generators under load in accordance with the standards listed in EC.7.40, JCAHO AHOM. The Directorate of Logistics (DOL) maintains and checks monthly the engines that power the generators.

5.3 Outlets that are connected to emergency power are labeled either with the word "EMERGENCY" or have either a yellow or red outlet plate. They tie in to the normal electrical power system during normal operations and can be used like any other outlet, however, only equipment that needs to continue to operate during an electrical outage should be plugged into them. If electrical

power supplied to the Health Center is lost, the generators activate as listed above. Electrical switch gear will automatically transfer them to emergency power. Appendix A contains floor plans showing the location of emergency electrical outlets and lights.

5.4 Impact of Water Usage. Water conservation is essential to energy conservation at Fort Huachuca, because electric pumps are essential to water purification and delivery. Water conservation measures are, therefore, also intended to reduce power consumption.

6. MEDDAC/DENTAC RESPONSIBILITIES.

6.1 Activity Chiefs. Each chief of a division, service or functional activity is responsible for:

6.1.1 Ensuring maximum conservation of electricity and water in all areas for which he/she is responsible.

6.1.2 Assuring that personnel know the locations of outlets supplied with emergency power. Assure that emergency lighting is on during power outages.

6.1.3 Advising the Logistics Division of additional electrical power, refrigeration or lighting requirements as they develop during a power reduction or outage.

6.1.4 Developing internal procedures documenting responsibilities and actions to be taken during power reductions or outages.

6.1.5 Assuring that no privately owned electrically powered equipment is in use during a power reduction or outage.

6.1.6 Advising the Chief of Logistics of requirements for manually powered support equipment required to augment or replace electrically powered equipment during a power reduction or outage.

6.1.7 Coordinating with other activities as required to temporarily relocate equipment and functions to areas where emergency power and lighting is available, rescheduling or re-appointing patients as required, and validating requirements for scheduling non-emergency procedures, based on utilities available.

6.1.8 Advising the next echelon of supervision of activities or functions that must be terminated due to lack of power.

6.2 Chief, Logistics. The Chief of Logistics is responsible for:

6.2.1 Overall conditions of utilities requirements and staff responsibility for recommending actions to be taken throughout the MEDDAC pertaining to utilities use.

6.2.2 Advising the Commander of requirements to curtail specific functions or services, or of requirements to terminate power in specified areas.

6.2.3 Coordinating with other units to obtain non-electric equipment such as typewriters to temporarily replace electrically powered equipment during extended power outages.

6.2.4 Advising the Commander in the event that deficiencies in utility support require command emphasis.

6.2.5 Coordinating with major commands and/or units or other major commands to determine availability of power generation equipment and utility pack power units.

6.2.6 Coordinating with the Directorate of Engineering and Housing to wire borrowed power sources into the facility, with particular attention to early restoration of dental treatment capability.

6.2.7 Serving as point of contact to coordinate requirements for expedient refrigeration of perishables other than those requiring emergency power in accordance with EC.7.2.0, JCAHO AHOM.

6.2.8 Determining local availability of refrigerated storage using other government and commercial or private sources.

6.2.9 Coordinating with the Resource Management Office to expedite emergency supply, service and procurement requests.

6.3 Facilities Management Branch. The MEDDAC Facility Management Branch is the operating office and the Help Desk is the single point of contact for utilities support, under the supervision of the Chief of Logistics. The Facility Management Branch shall:

6.3.1 Coordinate with MEDDAC shop personnel to maximize power availability to all areas, by rerouting emergency power from one area to another as required (i.e., Department of Radiology, Patient Administration Division, Headquarters and DENTAC) when necessary.

6.3.2 Maintaining liaison with DEH during power reductions or outages, to monitor total load on auxiliary generator(s) and available power remaining.

6.3.3 Maintaining and coordinating the generator testing plans and schedules with MEDDAC shop personnel.

6.3.4 Maintaining the blueprints containing Emergency Power Outlet locations.

6.3.5 Coordinating the termination and resumption of electrical power among supported areas as required, and keeping the MEDDAC staff informed as the situation evolves.

6.3.6 Determining shortcomings in physical security or fire protection during blackouts, and recommending actions required to alleviate the problem. Coordinating security requirements and actions to be taken with the security manager or night duty personnel.

6.4 DENTAC Commander. During elective post-wide reduction situations, the Runion Dental Clinic will continue to receive full utilities support, in conjunction with support furnished the Health Center. In the event of a commercial power outage, Dental Services, with the exception of the specific areas listed in Appendix A of this document, will not be available. The DENTAC Commander will require assistance of the MEDDAC staff in the following areas:

6.4.1 Planning for priorities and actions to be taken to return to normal operation as early as possible.

6.4.2 Determining equipment requirements, which will augment administrative and professional capabilities during periods of power non-availability.

6.4.3 Rescheduling and re-appointing as required in the event of a complete commercial power outage.

6.5 Contractor Work Team is responsible for: Preventive maintenance and trouble-shooting of the standby generator and transfer switches.

7. Directorate of Engineering and Housing Support. The Directorate of Engineering and Housing is responsible for:

7.1 Planning for the redistribution of electrical power to the Health Center area in the event that primary means of transmission are inoperative.

7.2 Assuring full power to the Health Center area, to include diversion from other supported areas as required, in the event of power reductions. Maintenance of full power to the Health Center and water pumping stations receives the highest priority of support.

7.3 Maintenance and fueling of the emergency generator.

7.4 Coordinating with 11th Signal Brigade to furnish additional fuel trucks to support the Health Center in the event that the power outage is prolonged.

7.5 Selectively reconnecting loads after power outage, to preclude restart overload.

8. DOL Maintenance Contractor is responsible for:

8.1 Maintenance and reliability testing of the battery bank.

8.2 Checking for potential motor failures due to voltage reduction

8.3 Surveillance of transformer temperatures.

The proponent of this publication is the Chief, Logistics Division. Users are invited to send comments and suggested improvements on DA Form 2028 directly to USA MEDDAC, Logistics Division, Attn: MCXJ-LO, Fort Huachuca, AZ 85613-7040.

FOR THE COMMANDER:

OFFICIAL:

NOEL J. CARDENAS
MAJ, MS
Deputy Commander for
Administration

Robert D. Lake
Information Management Officer

Distribution: C

APPENDIX A

Areas provided with emergency electrical power.

1. 2nd Floor.
2. X-Ray Unit and processor.
3. Exit Signs.
4. Department of Nursing, Endoscopy Room and Immunization Clinic
5. Medication Preparation Areas.
6. After Hours Care Clinic Area.
7. Surgery.
8. Recovery.
9. Exit lighting for Corridor, Passageways, Stairwells, and Exit Doors.
10. Pharmacy dispensing Area.
11. Blood Bank, Pharmacy Refrigerator.
12. Laboratory.
13. Clinics-Selected illumination and Receptacles.
14. Alarms-Fire, Smoke, Oxygen, Nitrous Oxide.
15. Central Supply-Selected Illumination and Receptacles.
16. Nurses call System.
17. Administrative Areas-Selected Illumination.
18. Elevators.
19. All Air Handlers.
20. Communication
21. Boiler controls in mechanical room.

APPENDIX B

EMERGENCY POWER DIAGRAMS

The Health Center, building 45001 electrical panel and circuit floor plans will be maintained and viewed at the Facility Management Branch. Circuit numbers that begin with an “E” denote emergency power circuits (such as “EA2-12”).

APPENDIX C

LOCATION OF REFRIGERATORS ON EMERGENCY POWER SYSTEM

AREA	LOCATION	CIRCUIT #
Recovery Room	Nurses Station	EA1A-21
Immunization Clinic	Small Refrigerator	EN-15
	Double Door	EN-15
	Domestic Upright	EN-14
Prime Time Clinic	Room 1103	EK-8
Laboratory	Room L-4	EL1-16
	3 Door Reach in	EL-24
	Room L-17	EL1-17
	Rm L-17 “Barter”	EL1-17
	Rm L-17 Freezer	EL1-17
	Rm L-17 Revco	EL1-17
	Double Door Reach in	EL1-8
	Rm L-28 Freezer	EL1-9
	Rm L-28 T100 Reach in	EL1-9
Pharmacy	3 Door Reach in	EJ2-17
	Small Refrig at counter	EJ1-10
Internal Medicine	Medication Room	EQ1-28

APPENDIX D

REDUCTION OF AVAILABLE POWER

The Commander may direct any of the following actions, in the event that power available to the MEDDAC is reduced. Internal procedures developed by subordinate activities will include requirements necessary to implement any of the following, as applicable:

a. Deactivate one operating room.

b. Operate electrically controlled sterilization equipment in manually controlled mode.

c. Discontinue use of heat-sealing devices.

d. Selectively discontinue use of electrical typewriters, microfiche equipment, copy machines, recording equipment, magnetic card typewriters, computers, and printers.

e. Discontinue use of small sterilizers and perform all sterilization as a central service.

f. Discontinue use of x-ray view boxes and centrifuges as much as possible throughout the Health Center.

g. Reduce nonessential lighting.

h. Selectively discontinue air conditioners.

i. Selectively discontinue non-emergency health services (for example, x-ray, EKGs required for physical examination).

j. Consider reducing or discontinuing pathology services such as serology testing, quantities of reagents and media to be refrigerated, culture processing, non-STAT analysis, histopathology, and autopsy.

k. Discontinue use of electrical floor-cleaning equipment.

l. Discontinue refrigerated storage of X-ray film and arrange for storage elsewhere.

m. Consolidate or selectively discontinue refrigerator use throughout the MEDDAC.

n. Selectively discontinue use of wall-mounted otoscopes, ice machines, TV, cable radio system and heat lamps.

o. Discontinue use of all personal or non-medical equipment items, especially items like microwave ovens, coffee makers, popcorn makers, toasters, electric fans, etc. which draw heavily on the electrical system.